

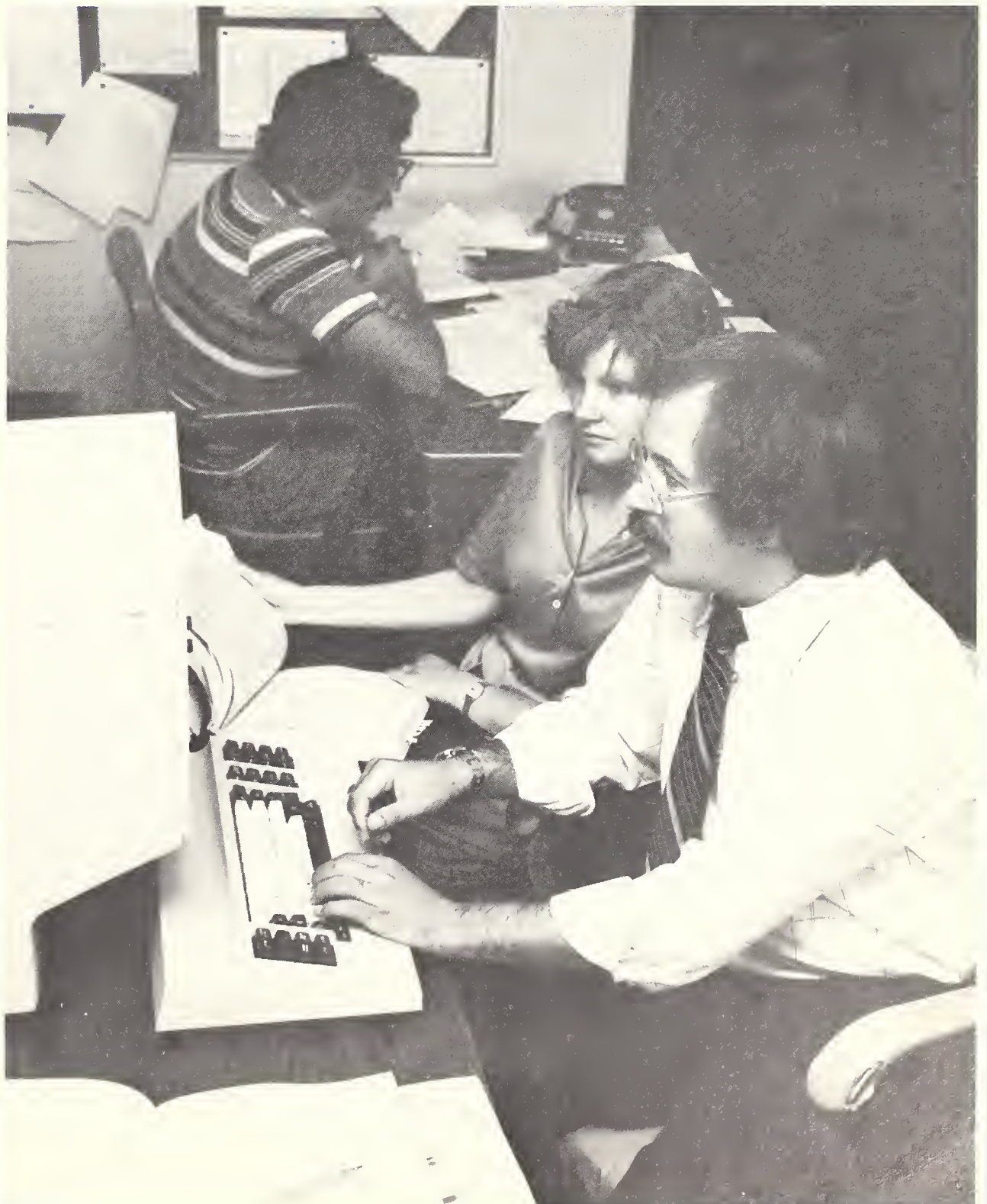
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Janet Barr, Editor

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WELCOME TO UTCS

On behalf of the staff of University of Toronto Computing Services, I would like to welcome both our new and returning users and wish them a productive and successful year of computing.

At this time last year, our returning users were faced with the prospect of a series of major hardware and software upgrades which were expected to span the fall and spring academic terms. With the co-operation of our users and careful planning, the upgrades were successfully completed, resulting in improved service response time, greater reliability, and lower computing costs.

During the summer months, the final stages of the upgrades were completed with the installation of newer, lower cost disk drives for storage of online user data, enabling us to pass on a twenty-five percent

reduction in storage charges.

This next year should be less disruptive for the users of our computing services than the past year was. Such incremental improvements in services as an improved tape management system, an upgraded APL service, and a documentation preparation service using in-house photo-typesetting facilities, are some of the changes scheduled for this year. The results of the major change in the UTCS organization announced last April will become increasingly apparent, particularly as the role of the Computing Services Representatives matures, resulting in better communication with our users and improved responsiveness in meeting our end user's needs.

Best wishes in the coming academic year.

Rein Mikkor

THE COMPUTING SERVICES REPRESENTATIVE

Over the summer months, UTCS has undergone a quiet evolution. To a large extent the changes are organizational: for example, the creation of product and service groups and the clear definition of areas of responsibility. Our new organizational structure is designed to optimize available resources thus increasing the speed and efficiency with which we meet the computing needs of our users. Current users of UTCS facilities will find that most of the changes are transparent. In other words, UTCS, when viewed from the outside, appears the same now as it did in the past.

There are some exceptions. The one which is most visible to the user community is the expanded role of the Computing Coordinator. In the new organizational structure he has been given the new title of Computing Services Representative (CSR). The new title was chosen to more accurately

reflect the new role of the CSR. The CSR will actively interface between users and UTCS resources (human, software and hardware). In the past, the Computing Coordinator's duties involved advising, staff supervision and terminal operation. The CSR will continue to perform these duties. However, some of these tasks will be modified and others added so that UTCS will be better equipped to resolve the users' computing problems. The job of the CSR is to keep UTCS informed of user needs and make users aware of UTCS services. Several aspects of the CSR's new role are discussed in further detail below.

Advising

The CSR now acts as the primary interface between the user community and UTCS. Users are encouraged to approach the CSR responsible for their Department or Faculty

continued...

COMPUTING SERVICES continued

with questions regarding all aspects of UTCS. (A list of Departments and Faculties and the CSR responsible for each is given at the end of this article). The CSR will be able to handle 90% of the initial inquiries directed to him. Those problems which are outside the CSR's area of expertise will be handled by the CSR, who will contact the appropriate UTCS support staff on the user's behalf. In instances where problems are too technical or complicated, the CSR will set up a meeting between the user and the appropriate UTCS support staff. The CSR will monitor the progress to the solution to assure that the problem is resolved to the user's satisfaction.

The above scheme offers many benefits to both users and UTCS. It frees UTCS technical and support staff to spend more time on system development, maintenance and evaluation. It also gives them the opportunity to produce documentation and educational aids for the user and to develop and introduce new products to the university community. The user benefits by dealing with a single, knowledgeable individual within UTCS which will help to ensure that the user's problems are resolved and followed-up satisfactorily. Since all user problems pass through the CSRs, many general difficulties with or misunderstandings of UTCS services can be identified and presented to the appropriate UTCS product group for resolution. In some instances, CSRs have their own areas of expertise and each CSR is a member of a product group.

CSRs (or their staff) will be available to assist users from 9:00 - 5:00, Monday through Friday. In some instances, advising staff are also available during and outside these hours. For an introduction to the individual CSRs, their areas of expertise and responsibilities, see articles elsewhere in this issue.

User Contact

A new aspect of the CSR's job is user contact. CSRs will contact their user community on a regular basis and determine users'

computer needs. User opinions regarding changes to software and hardware will be actively solicited. The user benefits by having more input into UTCS decisions. At the same time, CSRs can contact those members of the user community who would be affected most by proposed changes to determine the impact such changes would have on their work. Because CSRs meet on a regular basis, general trends across the entire user community can be passed on to the appropriate UTCS product group for further studies. CSRs will also keep users informed about new products and services offered by UTCS. In some instances, CSRs will direct users to an already existing product which would better satisfy his needs. There have been many instances in the past where users, not aware of the full range of our services, have spent many hours duplicating the results of existing, well-tested packages.

Accounting Inquiries

Accounting inquiries regarding new Blanket Purchase Order Accounts (BPOAs), Customer Account Numbers (CANs), and Service Access Codes (SACs) should be directed to the CSRs. The CSR will assure that sufficient and appropriate information is available to the UTCS Accounting Office so that accounts can be opened with a minimum of delay. Questions regarding charges for computer usage should also be directed to the CSRs who will be able to explain where and how charges are applied and in some instances suggest more efficient and cheaper methods of accomplishing the same ends. The user benefits by getting more computing for his dollar.

Personal Development

An integral part of the CSR's job is personal development. Each CSR will continue to upgrade his technical expertise. This applies to both UTCS software and hardware and other products available in the industry. CSRs will attend courses, seminars and conferences in order to upgrade their skills. In some cases, CSRs gain expertise in a certain area by testing and evaluating new software packages.

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UTCS COMPUTING SERVICES REPRESENTATIVES

DEPARTMENT/FACULTY	CSR	PHONE
Academic Statistics	T.B.A.	6509
Addiction Research Foundation	I. Prociuk	6885,6875
Admissions	S. Chong	4357
Aerospace Studies	B. Blackburn	284-3173
Alumni Affairs	B. Blackburn	284-3173
Anthropology	T.B.A.	6509
Applied Science and Engineering	S. Chong	4357
Architecture	S. Chong	4357
Arts and Science Admin.	T.B.A.	6509
Astronomy	B. Chambers	8823
Athletic and Recreation	S. Chong	4357
Behavioural Science	P. Shindman	828-5311
Botany	M. Tapia	7109
Budget Office	S. Chong	4357
Chemical Engineering	M. Tapia	7109
Chemistry	M. Tapia	7109
Child in City	S. Chong	4357
Child Studies Institute	S. Chong	4357
Civil Engineering	S. Chong	4357
Comptroller's Office	S. Chong	4357
Computer Science	B. Chambers	8823
Criminology	S. Chong	4357
Dentistry	B. Blackburn	284-3173
Electrical Engineering	S. Chong	4357
Engineering Science	S. Chong	4357
Environmental Studies	S. Chong	4357
Erindale Admin.	P. Shindman	828-5311
Erindale College	P. Shindman	828-5311
Faculty of Education	S. Chong	4357
Food Sciences	S. Chong	4357
Forestry	S. Chong	4357
French	S. Chong	4357
Geography	T.B.A.	6509
Geological Engineering	S. Chong	4357
Geology	M. Tapia	7109
German Studies	T.B.A.	6509
Graduate Studies	B. Blackburn	284-3173
Health Administration	I. Prociuk	6885,6875
Health Care Research Unit	I. Prociuk	6885,6875
History	P. Shindman	828-5311
History and Philosophy of Science	S. Chong	4357
Hospitals	I. Prociuk	6885,6875
Housing Service	T.B.A.	6509
Industrial Engineering	M. Tapia	7109
Industrial Relations	S. Chong	4357
Innis College	S. Chong	4357
Italian Studies	S. Chong	4357
Joint Centre on Modern East Asia	S. Chong	4357
Joint Program in Transportation	I. Prociuk	6885,6875

tear along dotted line

To Remove:

Law Faculty	T.B.A.	6509
Library Science	T.B.A.	6509
Linguistics	S. Chong	4357
Management Studies	T.B.A.	6509
Mathematics	T.B.A.	6509
Mechanical Engineering	M. Tapia	7109
Media Centre	S. Chong	4357
Medicine	M. Tapia	7109
Medieval Studies	S. Chong	4357
Metallurgy	M. Tapia	7109
Music	S. Chong	4357
Near Eastern Studies	B. Blackburn	284-3173
New College	S. Chong	4357
Nursing	S. Chong	4357
Nutrition/Foods Science	S. Chong	4357
O.I.S.E.	I. Prociuk	6885,6875
Other Universities	I. Prociuk	6885,6875
Personnel	S. Chong	4357
Pharmacy	P. Shindman	828-5311
Philosophy	S. Chong	4357
Physical Health	S. Chong	4357
Physical Plant Dept.	S. Chong	4357
Physics	B. Chambers	8823
Placement Centre	S. Chong	4357
Policy Analysis	T.B.A.	6509
Political Economy	T.B.A.	6509
Preventive Medicine	I. Prociuk	6885,6875
Private funding	B. Blackburn	284-3173
Psychology	T.B.A.	6509
Religious Studies	S. Chong	4357
Research Administration	S. Chong	4357
Scarborough College	B. Blackburn	284-3173
Scarborough-Erindale Library	P. Shindman	828-5311
School of Continuing Studies	B. Blackburn	284-3173
School of Theology	S. Chong	4357
Social Work	T.B.A.	6509
Sociology	S. Chong	4357
Spanish	S. Chong	4357
St. Michael's College	S. Chong	4357
Statistics	T.B.A.	6509
Student Admin. Council	S. Chong	4357
Student Awards	S. Chong	4357
Trinity College	S. Chong	4357
Urban and Community Studies	T.B.A.	6509
Urban and Regional Planning	T.B.A.	6509
Victoria College	S. Chong	4357
Woodsworth College	S. Chong	4357
Wycliffe College	B. Blackburn	284-3173
Zoology	S. Chong	4357

COMPUTING SERVICES continued

The role of the CSR is designed to be evolutionary, to change as user needs change. CSRs will continuously monitor their effectiveness and make any modifications required in their jobs to the benefit of both UTCS and the users.

The new structure of UTCS, particularly the new role of the Computing Services Representative, was designed to better serve the user community. There will undoubtedly be growing pains as both UTCS and users adapt to the new order. However, we encourage users to take advantage of the services provided by the CSRs. Only in this way can UTCS provide effective and efficient service.

The Computing Services Representatives are:

Arts and Science Terminal
to be announced 978-6509

EAT/EUT	
Sue Mai Chong	978-4357
Erindale	
Paul Shindman	828-5311
U of T Affiliates	
Ihor Prociuk	978-6875 or 978-6885
Physics	
Bob Chambers	978-8823
Scarborough	
Bob Blackburn	284-3173
Time-Sharing	
Mark Tapia	978-7109

Questions regarding the CSR Group should be directed to Ralph Lombardi at 978-7130.

Ralph Lombardi

FACULTY LIAISON OFFICER

As Faculty Liaison Officer, the primary responsibility of Dr. Frank Spitzer is to attempt to bridge the gap between the academic community and the large number of people responsible for the smooth running of UTCS's computing services. These services include many which are not visible to the entire academic community and which normally are used only by the university administration, e.g. payroll and student records. The high visibility areas, such as the Engineering Annex Terminal (EAT), and the student services provided at Erindale or Scarborough Colleges, are heavily used by students and faculty members alike.

Dr. Spitzer ensures that these services are, wherever possible, improved and main-

tained at high levels of operating efficiency. As such, Dr. Spitzer welcomes any suggestions concerning the improvement of these services or criticisms of their current operation. Above all, users who feel that they are not obtaining adequate or proper responses to their problems are asked to contact Dr. Spitzer.

Suggestions regarding ways in which our systems can be improved to assist in teaching and research applications are also welcome. To this end, Dr. Spitzer is in the process of formulating the terms of reference for a Computer Users' Committee. It is hoped that this body will help UTCS to better serve the university community.

Dr. Frank Spitzer

WELCOME BACK TO EAT/EUT

As the long, hazy days of summer draw to a close, students and professors are preparing themselves for the busy fall term ahead. Many of you are returning after a restful summer - to you we extend a hearty welcome back! To the new students and staff who will be using UTCS's facilities for the first time, we would like to welcome you aboard and hope this year will be a successful one for you.

The Engineering Annex Terminal (EAT) is located at 11 King's College Road, right behind the International Student Centre and just south of the Sandford Fleming Building. This terminal location contains three different computing facilities: an undergraduate terminal, a General Purpose Job Stream (GPJS) terminal, and interactive terminal facilities. The Engineering Undergraduate Terminal (EUT) is designed for processing High Speed Job Stream (HSJS) jobs. This terminal provides 44 keypunches, a 1200 lines per minute printer and a 1000 cards per minute card reader. There is also a work room where students may sit and debug their programs.

EAT, the GPJS terminal, has three 1200 lines per minute printers. Two of the printers are self-service, and a third printer located 'behind the counter' is reserved for very large print jobs and special forms. EAT also has a 1000 cards per minute reader, a card punch, two interpreters, a Gould plotter, 5 keypunches, 3 IBM interactive terminals, three DECwriter terminals, and a Xerox Diablo terminal.

The interactive terminal room is in Room 107A of the Engineering Annex building. This room contains 8 Volker Craigs hardwired to the DEC-1090, 4 2741s hardwired to the S/370-165-II for APL/ATS, and 5 DECwriters (dial-up terminals).

The terminal is open 24 hours daily except for the following hours:

Friday at 22:00 to Saturday 8:00
Saturday at 20:00 to Sunday 8:00
Sunday at 20:00 to Monday 8:00

For assistance with the operational aspects of your programming jobs, we have four cheerful, helpful I/O operators. Andy, Jim, Barb, and Steve assist users in finding their jobs (lost or otherwise), fix interpreters, keypunches or interactive terminals which aren't working, and provide information concerning UTCS policies and procedures.

To assist you with programming difficulties, we have a staff of part-time programming advisors, a full-time programmer, and of course your CSR, Sue Mai Chong. Sue Mai's office is located in Room 201 of the Engineering Annex building. Since Sue Mai's office is hidden in a corner of the building, it may be difficult for users to find her. Anyone having problems finding the office can call Sue Mai for assistance by dialing 978-4357.

Sue Mai completed her undergraduate degree in Psychology at the University of Toronto, and has taken several graduate courses in statistics. She was employed as a programmer with a research unit where she gained valuable experience in questionnaire format and design. With this background, Sue Mai has been able to develop a good working knowledge of several statistical packages. Individuals experiencing problems related to statistical computing are encouraged to contact Sue Mai.

Programming assistance will be available in the fall and winter terms during the following hours:

10:00 to 20:00 - Monday to Thurs.
10:00 to 17:00 - Friday
13:00 to 18:00 - Sat. & Sun.

continued...

EAT/EUT continued

Unfortunately, the overcrowded conditions which arise in the middle of the term cannot be alleviated due to the impossibility of acquiring additional space. So it appears that the patience and goodwill of staff members and users alike will again be put to the test. Users may find that by checking job volume statistics posted in EAT and scheduling their runs during the slower periods, they can avoid some of the frustrations experienced during the busy times. (HINT: Before 10:00 is usually a good time to run

jobs.)

Students and staff are encouraged to use the graffiti sheets posted in the General Purpose terminal and outside of EUT to voice their opinions and suggestions concerning the terminal and UTCS.

I/O operators may be reached at EAT (978-7373). The EAT programmer, Dave Reed, is located in Room 103A (978-4516).

Sue Mai Chong

ERRATUM

Newsletter subscribers should note the following correction to the article entitled *3380 DISK UPGRADES REDUCE COSTS AT UTCS* which appeared in last month's issue of *COMPUTERNEWS*.

the DECsystem-10 has been reduced from \$1.00 per day to \$0.75 per day.

We apologize for any confusion or problems this error may have caused.

The disk storage charge for 1,000 blocks on

Janet Barr

UTCS INFORMATION OFFICE

A wide range of user services is provided by the UTCS Information Office, Room 206, Engineering Annex. In addition to maintaining a reference collection of computer manuals, technical reports, and periodicals, the Information Office sells documentation for the various software program products available on UTCS's computer systems. The systems currently in service at UTCS include an IBM 3033, an IBM 3031, an IBM S/370-165-II, the DECsystem-1090, and DEC minicomputers, the PDP-11/40 and the PDP-11/70.

Here, too, users can obtain sections of the UTCS USERBOOK. The purpose of *USERBOOK* is to acquaint the user with all the

resources available at UTCS and to enable the user to make use of the facilities in which he is interested.

Besides providing documentation, the Information Office staff can answer questions on the availability and status of software and, when necessary, can refer technical requests to the proper support person within UTCS.

For further information concerning Information Office services, please phone 978-4990, or visit the office between the hours of 9a.m. and 5p.m. from Monday to Friday.

Dawne Smith

WELCOME BACK TO AST

We would like to wish a warm welcome to all new or returning users of the computing facilities at the Arts and Science Terminal (AST).

AST provides both General Purpose and High Speed Job Stream facilities. For those users holding a valid Service Access Code (SAC), batch facilities are available on the second floor of the Sidney Smith building, Room 2105. Communication with the IBM 3033 Processor is accomplished via the CDC Cyber 18-05 terminal system. Users can access TSO/WYLBUR, APL/ATS, and DEC services by means of the interactive terminals which are provided in Room 2104.

In the Arts and Science Undergraduate Terminal (ASUT), Room 1073, a self-service HSJS facility is available which includes 32 IBM keypunches and an IBM card reader and printer. For those users requiring assistance with programming problems or for users who are having problems operating the equipment in Sidney Smith, an advising service is maintained in Room 2100.

Terminal staff will be pleased to aid you in any way possible. A detailed chart showing the hours of service at the Arts and Science Terminal follows this article.

David Sansom

UTCS ACCOUNTING

Accounting Services is now part of the UTCS Services Support Group. As of September 1, this area will be handling requests for new accounts and Access Codes, as well as changes to existing accounts, through the various Computing Services Representatives.

For those unfamiliar with the UTCS accounting structure, the following describes

Area	Room	Hours of Operation
AST Batch Terminal	2105	Mon-Fri 8:00-22:00 Sat-Sun 8:00-20:00
AST Interactive Terminals	2104	Mon-Fri 8:00-22:00
ASUT Terminal	1073	Mon-Fri 8:00-22:00 Sat-Sun 8:00-20:00
ASUT Workroom	1075	Mon-Fri 8:00-22:00 Sat-Sun 8:00-20:00
ASUT Advising	2100	Mon-Fri 10:00-17:00
Programmer/Operator	2100	Mon-Fri 9:00-17:00
Computing Services Representative (phone 978-6509)	2133	Mon-Fri 9:00-17:00

the basic account divisions and how they are funded and controlled.

UTCS accounts and codes are structured on three levels. Operating interdependently, these consist of the Blanket Purchase Order Account Number, the Customer Account Number, and the Service Access Code.

continued...

UTCS ACCOUNTING continued**Blanket Purchase Order Accounts**

Accounts are normally funded by the customer raising a Blanket Purchase Order through his Department. This Purchase Order encumbers or reserves the funds required to meet the estimated cost of the customer's computing at UTCS for a limited period of time, usually a fiscal year. The dollar amount shown on the Blanket Purchase Order is recorded by UTCS in a holding account, called a Blanket Purchase Order Account (BPOA). This amount becomes the customer's credit limit or allotment. It can be raised or lowered at any time by requesting an increase or decrease on the PO through the University's Purchasing Department.

Customer Account Numbers

The allotment in a BPOA can be divided out or budgeted for different individuals, projects, courses, etc. at the next control level, called the Customer Account Number (CAN). If all funds allotted to a BPOA are used for single purpose, one CAN is established and the spending limit on that CAN is identical to the total amount allotted to the BPOA. However, any number of CANs can be set up with individual spending limits, the total of which, of course, should not exceed the BPOA allotment.

Service Access Codes

To access the various software products and services on any of the UTCS computing systems, a Service Access Code (SAC) must be established for each machine system that the customer intends to use. SACs are set up for users who are authorized owners or holders of a valid Customer Account Number. Any number of SACs can be set up under a single CAN and the CAN holder may distribute these SACs to other individuals. In this case, it is up to the CAN holder to control the spending limit for his account. This may be done by requesting that a dollar limit be set on a SAC and/or by restricting the types of ser-

vices which a SAC may use.

Conditions of Usage

The following Conditions of Usage apply to all UTCS Service Access Codes:

1. An Access Code is issued to the Customer Account holder and, as such, is non-transferable without the authorization of UTCS Accounting Services.
2. Other persons using such Access Codes under the supervision of the Customer Account holder must be registered with UTCS Accounting Services.
3. All authorized code users are expected to take the prescribed steps to protect codes from unauthorized use (see *USERBOOK SECTION 2*) and to use the code only for access to private files created by that code, other special files made available to that code, or files in public libraries.
4. Users are requested, for their own protection, to report any improper use of the computing facilities to UTCS Accounting Services.

Billing: Monthly Statements

At the end of each month, all charges accrued for the month are billed against the Blanket Purchase Order which funds the computing services at the various account and access levels. The unused portion of the encumbered amount of the Purchase Order becomes the BPOA allotment for the next month's usage. At the end of the month, detailed statements are mailed out to the individuals within each Department responsible for budget control at the various levels. The various reports are summarized below:

Departmental Summary Report - sent to Departmental Representatives showing a record of activity on each BPOA and CAN used by the Department.

continued...

UTCS ACCOUNTING continued

BPOA Reports - mailed to persons in whose name the POs have been raised (BPOA holder). This report shows a summary of all activity on CANs drawing allotments from that BPOA.

CAN Reports - addressed to persons in the Department responsible for control of expense at the CAN or project level. This report contains a detailed summary of job

charges, storage charges and miscellaneous items such as documentation billed directly to the Customer Account Number.

If you have any questions or problems concerning UTCS accounting, please contact the UTCS Computing Services Representative for your Department.

Marg Doherty

TIME-SHARING ADVISING

UTCS's Time-sharing Advising Service provides advising support to users of UTCS's interactive services, i.e. TSO, WYLBUR, APL, ATS, and the DECsystem-1090. Mark Tapia is the Computing Services Representative in charge of Time-sharing Advising. Most of the UTCS CSRs are in charge of remote terminals and deal with the users of the terminals on a personal basis. However, because Mark is not associated with a particular terminal site, and because a number of time-sharing users interact with UTCS's time-sharing systems from locations as far away as California, the Time-sharing CSR does not deal face to face with the users of the Time-sharing Advising Service. Instead, these users telephone the Time-sharing Advising office (978-6465) or send electronic mail/comments. Thus, these users are still able to benefit from individual attention. The advising service is available from Monday to Friday, 10:00 hours to 17:00 hours.

The Time-sharing CSR is also in charge of Student Services, which includes the High Speed Job Stream (HSJS) service. In this role, he documents and tests various HSJS compilers, refers bugs/problems to the ap-

propriate authorities, and maintains the HSJS library.

In yet another role, the Time-sharing CSR is responsible for answering "Gripes" submitted via the DECsystem-1090. For more information on this facility, type the monitor commands `HELP GRIPE` and `HELP GRIPA`. Copies of recent Gripes and their responses are posted at the principal UTCS remote terminals. In addition, users may access an online copy of the file containing the current Gripes and their responses by typing the monitor command `TYPE GRIPES [3,3]`. More complete information on the Gripe facility is contained in *USER-BOOK, Section 7*.

Mark is also responsible for updating `HELP` files and incorporating the changes suggested in user Gripes.

Comments and suggestions on any of the time-sharing services should be directed to the Time-sharing CSR at 978-7109. Problems and pleas for help should be directed to the Advising Service at 978-6465.

Mark Tapia

WELCOME SCARBOROUGH

The staff of the Scarborough College Computer Centre would like to welcome back all students, faculty and staff from their summer vacations. We would also like to welcome all new students to the campus.

After what has seemed like a very short summer, we're sure that you are all eager to begin the fall term.

Over the summer months, several changes have taken place at the Scarborough Computer Centre. In late August, Scarborough received new CDC equipment. This new equipment consists of a 600 cards per minute reader, and a 600 lines per minute printer (with upper and lower case). This faster I/O rate is expected to substantially increase the job throughput. Please be aware that OMR is no longer supported locally.

Ihor Prociuk, Scarborough's Computing Services Representative for the past two years, left the Centre in July to accept a position with UTCS downtown. Best of luck in

your new position, Ihor!

Ihor's replacement is Bob Blackburn, who was previously a member of UTCS's Customer Services Group.

So, if things get a bit hectic around registration time, take a break! Come up to the sixth floor of the Science wing and meet the Centre's staff. We would be happy to describe the new equipment to you and help you with any of your computing needs.

The normal operating hours at the Centre are:

09:00 to 22:00 - Monday to Thurs.

09:00 to 17:00 - Friday

12:00 to 17:00 - Saturday

Bob Blackburn
Computing Services Rep.

Robert Heard
Program Advisor / Operator

UTCS PUBLICATIONS

UTCS produces a variety of in-house documentation designed to acquaint the user with all the resources available at UTCS and to enable the user to make use of the facilities in which he is interested. The following is an outline of the various publications available at UTCS.

USERBOOK

USERBOOK is the official reference manual for all computing services available at UTCS. Its modular design allows each subscriber to compile a reference manual customized to meet individual documentation needs. The *USERBOOK* is updated on a regular basis and updates are automatically mailed to subscribers.

Reference Cards

A series of pocket-sized reference cards, summarizing the JCL and/or command lists for heavily-used packages is available. These reference cards point to the appropriate chapter/module of *USERBOOK* for more detailed information. The *INTRODUCTION TO HSJS* card is an example of the reference cards available at UTCS.

HOW TO Series

The *HOW TO* series of manuals is designed to assist users in the operation of the self-service equipment at UTCS. Each manual describes the basic techniques required to

continued...

UTCS PUBLICATIONS continued

operate the equipment at a given terminal; step-by-step explanations are accompanied by examples and photographs. These manuals are designed so that they can be distributed as stand-alone documents or as optional *USERBOOK* modules. A sample title is:

*HOW TO USE**AN IBM 029 KEYPUNCH**AN IBM 2501 CARD READER**AN IBM 1403 LINE PRINTER***COMPUTERNEWS**

COMPUTERNEWS the UTCS newsletter, is a monthly publication which describes

current staff and systems' activities. It is available free-of-charge to all UTCS users.

Supplementary Materials

In addition to the above-mentioned publications, various supplementary documents are available at UTCS. An example of such supplementary materials is *A GUIDE TO UTCS PUBLICATIONS*. This publication provides a detailed description of the organization of UTCS's official reference manual, *USERBOOK* and provides a brief outline of the other UTCS publications available to users.

Copies of all UTCS publications may be obtained from the UTCS Information Office, Engineering Annex, Room 206.

Cathy Gillevet

NEW EQUIPMENT AT ERINDALE

During the last few weeks of August, Erindale College Computing Services acquired new equipment from the Control Data Corporation, replacing the setup which has existed at Erindale for the past two years. This new computing environment promises greater speed and reliability, as well as improved turnaround and less down time.

Erindale's computer centre (room 2039, south building) is now using a Gandalf Supermodem (9600 baud), two 600 cards per minute readers and one 600 and one 300 lines per minute printer. As well, a different layout in the machine room will make life more enjoyable for our users.

There is also an interactive terminal room for users of TSO, WYLBUR, APL, ATS, and the DECsystem-10. Provided are five Volker Craig screens, one Datamedia screen, and nine DECwriters. Also available is a XEROX Diablo terminal, for high quality output.

Paul Shindman, the Computing Services

Representative (CSR) at Erindale, is located in room 2043, right across the hall from the keypunching area (where users may select from fifteen IBM 029 keypunches): Paul is a member of the APL and the Small Systems product groups. As well, Paul will be offering courses in JCL, TSO, SOS and WYLBUR this fall for interested users. Please come in and talk to him if you have any questions or problems.

Throughout the year, users may consult not only Paul and the advisors that are on duty during the day and evening, but a small reference library that is in the same room.

This year, the computer centre's hours are:

09:00 to 22:00 - Monday to Thurs.

09:00 to 17:00 - Friday

12:00 to 18:00 - Saturday

Enjoy computing at Erindale College!

Paul Shindman

PERSPECTIVES FOR RESEARCH IN COMPUTING

As noted in an earlier issue of *COMPUTERNEWS*, IBM Canada and UTCS co-sponsored two lectures earlier this summer. The intent of these lectures and the continuing series of lectures which will resume with the new academic year is to bring to the University of Toronto a number of world specialists in academic research, whose work has been made possible by extensive use of computing resources.

The titles of upcoming lectures will be publicized as soon as the dates and lectures are

finalized. The lectures will be held approximately monthly until the end of 1979. The schedule for 1980 has yet to be established.

UTCS invites members of the Faculty and research community to suggest appropriate speakers and topics for the lecture series. Such participation should ensure the selection of a program which includes presentations relevant to research work currently in progress within the University.

Dr. Frank Spitzer

THE PHYSICS TERMINAL

The Physics Terminal is located in Room 1202 of the Burton Tower. The equipment available at the Terminal includes a CDC Cyber 18-05 batch terminal, seven keypunches, a keypunch-interpreter, and three interactive terminals (an IBM 2741, a Volker Craig 303A, and a DECwriter). The APL character set is available on all three interactive terminals.

We have recently taken delivery of a Diablo 1641 interactive terminal. This hardcopy terminal produces high quality printing and will permit us to phase out the IBM 2741 terminal.

The Physics Terminal is operated almost totally on a self-serve basis and is always open for business. Please note, however,

that because of the limited amount of space available at the Physics Terminal, the equipment and facilities are restricted to faculty, staff, and graduate student use.

Bob Chambers is the Computing Services Representative responsible for the Physics Terminal. His office is located in Room 1203B of the Burton Tower and he can be reached by phone at 978-8823. A programming advisor is on duty part-time to assist users with their computing tasks.

If you have any questions or computing problems, please do not hesitate to drop by or phone us at the above number.

Bob Chambers

CLASS E NEWS

Class E is a low cost execution only service designed to provide very low cost computing to users with jobs requiring large amounts of CPU time. This service became operational in May of this year and, since that time, has seen a steady growth in popularity. The purpose of this article is to briefly review the specifications of Class E. Current users of Class E should note the changes made to the manner in which a region size greater than 500K is requested.

A Class E job is submitted via the IBM 3033 computer in the usual manner (i.e. by means of a card reader, TSO, WYLBUR, or the DEC-10 link). After accounting information has been verified, the Class E job is transferred to the S/370-165-II computer for execution. After execution, any printed, punched, or Gould plotter output is transferred back to the 3033 computer for processing.

No language compilers are available on Class E. Thus Class E jobs can only execute programs that are in load module form. A special "shared" disk pack, accessible from both the IBM 3033 Processor and the S/370-165-II, is provided to allow the creation and storage of load modules for use in Class E jobs. Additionally, there are no runtime libraries available in Class E. (These are collections of routines that are loaded dynamically during the execution of a program.) This restriction means that only load modules created from ASSEMBLER or FORTRAN programs will successfully execute on Class E.

Class E programs can access the Gould plotter. The linkage-editor and some IBM utility programs are also available. Tape mounts (1600 and 6250 bpi only) and 3330 disk mounts are permitted. A Class E job may run for up to 4 hours elapsed time.

A Class E job may request up to 500K of memory without the use of a /*SETUP statement. Because of limitations imposed by other services running concurrently on the S/370-165-II computer, a Class E job requiring greater than 500K must have a /*SETUP statement specifying the amount of memory needed. The computer operator can then schedule this job when the necessary amount of memory becomes available. The maximum amount of memory available to a Class E job is 1000K.

The resources used in Class E are charged for according to the following. CPU and I/O wait time is charged for at the rate of \$0.50 per minute. If the CPU and I/O wait time charge is less than \$15.00, a flat charge of \$15.00 is levied for this resource. There is no charge for memory usage. Unit record processing (cards read, lines printed, etc.) are charged for at standard PRIORITY 4 rates. Tape and disk mount charges are accrued at standard PRIORITY 6 rates. The disk storage rates for datasets on the shared disk are \$0.024 per track per day.

To use Class E one must have a valid S/370 Service Access Code (SAC). Additionally, this SAC must be enabled by the UTCS accounting office for use on Class E. This enabling must be authorized by the holder of the Customer Account Number (CAN) responsible for the SAC in question.

The Class E documentation will appear soon in the form of a new *USERBOOK* module. Until then, draft copies are available at the UTCS Information Office and at remote terminal sites. Any questions concerning Class E can be directed to your local Computing Services Representative.

Bob Chambers

DECSYSTEM-10 NEWS

On behalf of the DECSYSTEM-10 Support Group, I would like to welcome all our new and returning users. Those of you who have used a DEC-10 either at UTCS or at another installation will no doubt be interested in the many changes which have occurred over the summer. Several of these are described in later sections of this article.

If you are a new user of our system, or are thinking of becoming one, the following brief overview of the UTCS DECSYSTEM-10 may be of interest to you.

DECSYSTEM-10 Overview

The DECSYSTEM-10 installed at the University of Toronto is a general purpose time-sharing computer system manufactured by Digital Equipment Corporation. DEC may be better known to you for its minicomputers. Time-sharing takes maximum advantage of the capabilities of the computing system by allowing many independent users to share the facilities of the system simultaneously. In this way, each user can interact with the system as if he were its only user. Because the DEC-10 is designed for time-sharing, it has several advantages over the time-sharing facilities available on other UTCS systems. The TOPS-10 operating system provides the users with a powerful command language, a full range of software, and a flexible file system which is easy to manipulate.

The UTCS DEC-1090 system has about the same raw computing power as an IBM 3031. However, in terms of both architecture and user interface, the DEC-10 is very different from other UTCS machines. For example, most of the 398 instructions refer to a full 36-bit word, although some operations access bytes of arbitrary size and position. Character strings are stored five per word using 7-bit ASCII. The system implements a virtual memory scheme which can be utilized at the user's option.

The memory consists of 256K 36-bit words. Program sizes are usually specified in terms of pages, each of which is 512 words long. The system as a whole, then, has 512 pages. In addition, there are four 200 MByte disk drives on the system, providing a total of almost 160 million words of mass storage. A very popular feature of the system is the high speed communications link which can be used to submit batch jobs to the IBM 3033 after using the DEC-10 to prepare them.

Of course, every DEC-10 user has access to a wide range of editors (SOS and TECO) and compilers (FORTRAN, ALGOL, APLSF, etc.) as well as a variety of system utility programs (LINK, PIP, DIRECT, MAIL, etc.). Users find that creating, compiling, debugging, and executing their own programs is a remarkably easy process. One of the main advantages of DEC-10 time-sharing is that the user has the capability of using a large number of different programs during a single time-sharing session.

More information about the DEC-10 is available from the UTCS Information Office, Room 206, Engineering Annex. To get an expanded overview of the system, ask them for *USERBOOK SECTION 7, DECSYSTEM-10 SERVICES*. They also stock more detailed manuals, if you wish to learn some of the details of the system.

"Texas TECO" Installed

On July 25, "Texas TECO" replaced DEC's TECO as the standard character-oriented editor on the system. We obtained this enhanced TECO (Text Editor and Corrector, ver. 124A) from the University of Texas at Austin, together with several helpful user aids. UTCS very much appreciates the University's generosity.

In addition to being an online editor, TECO is a powerful programming language for writing editing programs. It will be of in-

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DECSYSTEM-10 NEWS continued

terest to anyone needing to perform large or complex editing functions. This version of TECO includes online help, automatic personalized initialization, video terminal control, new file handling capabilities, negative and bounded searches, and much more. Most new features are simply enhancements; however, users should be warned that a few features function differently in Texas TECO than in DEC TECO. Documentation available includes:

- DOC:TECO.DOC -Comprehensive TECO command summary;
- DOC:TEC124.DOC -Comparison of DEC's TECO and "Texas TECO";
- DOC:TECO.HNT -List of little known features and general hints.

Also, several interesting examples of TECO macros may be found in ersatz device TED:. Refer particularly to the files *.TEC and *.TCO.

Users who would like to learn to use TECO in a relatively painless way might be interested in a series of four online lessons on the subject. To begin the lessons, type R TOPS06 and follow the instructions from there. The lessons continue with TOPS07, TOPS08 and TOPS09.

MIC Improvements

A new version of the MIC (Monitor Interpreted Commands) processor was installed on June 25. Users of MIC will be pleased to learn that it now works properly with SFDs and using formats like:

.DO X[123,456,Y,Z] a,b,c,....

However, several deficiencies still exist. The remaining problem which most users would like to see fixed is probably MIC RESPONSE. We hope to solve these problems in the near future.

Changes to the Rate Schedule

The infamous "CPU runtime Anomaly" was corrected at the beginning of May. The anomaly was that the CPU runtime which had been reported to users until then was 20% too high. This problem was resolved by decreasing the CPU runtime and memory usage measured by the monitor and simultaneously increasing the corresponding rates in such a way that user charges remained the same. The net result of this entire procedure is that, finally, the correct CPU runtime is being reported to the user.

While on the subject of rates, the announcement made in last month's *COMPUTERNEWS* concerning disk storage charges should be repeated and corrected. At the beginning of September, the charge for disk storage was reduced by 25%. The new rate given in that article, however, was too small by a factor of ten. The correct rate schedule which took effect on September 1 is as follows:

Item	Unit	Rate
*Connect	/hours	2.00
*CPU	/min	4.68
*Memory	/KWmin	.15
*Disk I/O	/K-blocks	.50
Disk storage	/K-blk-day	.75
Tape mounts	/mount	1.00
Tape usage	/hour	3.00
Tape storage	/month	1.00
Line printer	/K-lines	2.00
Card Reader	/K-cards	2.00
IBM listing	/K-lines	1.40
(* - Session Charge Item)		

Users may always determine the rates presently in effect by typing the monitor command HELP RATES.

Full Operator Coverage (Almost)

Effective July 13, operator coverage for the DECSYSTEM-10 was extended to weekends. Henceforth, there will be an operator on duty from 08:00 to 20:00 hours every Satur-

DECSYSTEM-10 NEWS continued

day and Sunday. The only periods during which an operator will not be on duty are from 00:00 to 08:00 Saturday morning, from 20:00 Saturday night until 08:00 Sunday morning and from 20:00 to 24:00 Sunday night.

The full schedule of DEC-10 operations is the following:

Monday-Friday

00:00-01:00 hrs System test time
 01:00-07:00* hrs Normal service
 07:00*-09:00 hrs Maintenance
 09:00-22:00 hrs Normal service
 22:00-24:00 hrs System test time

Saturday, Sunday

00:00-08:00 hrs Unattended operation
 08:00-20:00 hrs Normal service
 20:00-24:00 hrs Unattended operation

(* - 05:00 on the second Wednesday of each month)

The system will often be available even during maintenance and test times. If it is not, users will be given advance notice by means of the KSYS notice (i.e., "Time-sharing will end in").

File System Upgrade

During the month of May, the entire disk subsystem was upgraded and reorganized. The hardware change consisted of the installation of four new RP06 disk drives (to replace the old RP04s) and a second RH20 channel/controller. These changes doubled both the total storage available to users and the system's disk I/O throughput capability.

One change in the organization of the structures which pleased many users was the redefinition of the "cluster size" to five blocks instead of ten. This results in the more efficient use of disk space at the cost of somewhat higher monitor overhead.

The file structure reorganization resulted in

the following:

DSKB: system files and all files
 for projects greater than
 1000;

DSKC: all files for projects
 between 100 and 1000.

These changes should be functionally transparent to all users unless they use programs or commands which explicitly refer to particular file structures. These references should be changed to "DSK:" (which means "structures in the user's search list").

DECUS Conference Report

Readers of *COMPUTERNEWS* who were away for the summer may have missed the article in the July issue about the Spring meeting of the DECsystem-10/20 Digital Equipment Corporation User Society. For their benefit, a few of the highlights are mentioned here.

The most important sessions at the conference were concerned with operating system developments, namely the 7-series monitor which is the culmination of DEC's efforts to develop a true SMP (Symmetric MultiProcessing) system. Although that effort is not directly applicable to a single processor installation such as the one at UTCS, there is an associated overall improvement in performance and a number of useful new features which make the new monitor very attractive. UTCS expects to receive the 7.01 monitor about May, 1980.

In the field of user software, several maintenance releases of important utilities are scheduled to be distributed over the next few months. These include PIP, MACRO, and LINK. In addition, Version 6 of FORTRAN is expected to become available next February.

The Fall meeting of DECUS will be a joint meeting of users of DEC-10/20 systems and users of DEC's line of mini and midi computers. It will be held in San Diego, December 10-13, 1979.

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DECSYSTEM-10 NEWS continued

Anyone wishing to learn more about the Spring DECUS is advised to read the original article which appeared in the July 1979

issue of *COMPUTERNEWS*. Reference copies of *COMPUTERNEWS* are available at the UTCS Information Office.

Dr. Edmund West

MATH PACKAGES AT UTCS

The purpose of this article is to briefly describe the mathematical software available at UTCS and to indicate where additional information concerning these programs can be found. The IMSL, EISPACK, FUNPACK, LINPACK, HSL, and OPTISEP routines will be of interest to FORTRAN programmers. Users of APL on the S/370-165-II computer and BASIC on the DEC-1090 computer have available to them separate libraries containing many programs of a mathematical nature.

Documentation for the programs discussed below which are available on the 3033 computer is available for reference at the UTCS Information Office. As noted below, the documentation for some items can be found at UTCS remote terminals or in sections of *USERBOOK*. Documentation for programs on the DEC-1090 computer is generally found in online HELP files.

The Application Program Index is a keyword-in-context listing of the various mathematical programs available on the IBM 3033. A description of this index and the means by which it can be obtained are discussed in the *USERBOOK* base chapter, 3.7APPLICATION SOFTWARE.

The most widely used package of mathematical routines is the International Mathematical and Statistical Library (IMSL). This package, which is a collection of several hundred highly reliable subprograms mostly written in FORTRAN, is available on the 3033 computer on both the General Purpose Job Stream (GPJS) and the High Speed Job Stream (HSJS). The IMSL documentation is available for reference at UTCS remote terminals. JCL statements needed to access IMSL in GPJS are

discussed in module 3.7IMSL of *USERBOOK*. The latest version of IMSL, Edition 7, is currently being prepared for installation by UTCS staff.

EISPACK, which is a collection of FORTRAN routines obtained from the Argonne National Laboratory, is used to solve various types of eigenproblems. It is available on the IBM 3033 under GPJS. Documentation for each routine is available in machine readable form as well as in two published manuals. An overview of the routines comprising EISPACK and the JCL needed to access these routines is presented in module 3.7EISPACK of *USERBOOK*.

FUNPACK, another product of the Argonne National Laboratory, is a set of routines designed to calculate various special functions used in the physical sciences. It is accessible from GPJS on the IBM 3033 computer. Documentation and access information for these programs are contained in module 3.7MATHLIB of *USERBOOK*.

LINPACK, the most recent software released by the Argonne National Laboratory, is a collection of FORTRAN programs useful in solving linear algebra problems. It is offered on GPJS on the IBM 3033 computer. A *USERBOOK* section describing LINPACK and providing JCL information is in preparation.

Several programs taken from the Harwell Subroutine Library (HSL) which are useful in solving minimization problems are described in module 3.7OPTIM of *USERBOOK*. This *USERBOOK* section also describes OPTISEP, a set of routines for handling constrained minimization problems., MPSX, an IBM product for solving

continued...

MATH PACKAGES AT UTCS continued

linear programming problems and QMS, a package designed to solve quadratic programming problems. All of these items are available in GPJS on the IBM 3033 Processor.

At UTCS, several simulation packages are available. CSMP, DYNAMO, GPSSV, and SIMSCRIPT are available on the IBM 3033 under GPJS. UTCS has recently installed Release 8H of SIMSCRIPT. These are briefly described in module 3.7SIM of *USERBOOK*. The GASP-II and SIMULA simulation systems are available on the

DEC-1090 computer. Information pertaining to these two programs is located in on-line HELP files.

A brief description of several mathematical programs available on the DEC-1090 is located in the HELP file entitled MATHPK. These routines have been taken from the DECUS library of programs.

Any questions concerning these items can be directed to your local Computing Services Representative.

Bob Chambers

WYLBUR AT UTCS

Are you tired of batch computing? Have you ever spilled a box of 2000 unnumbered punched cards or had a box get wet and turn into an unreadable mess? Have you ever brought the wrong deck with you, only to discover your mistake when you actually arrive at the terminal? Then, after you have read in your job, have you ever stood around wondering why you were wasting your time waiting for your job to run when you could be either at home or at your office doing something more interesting or useful? Finally, have you ever found it awkward or inconvenient to make corrections to your deck using a keypunch? If you can answer "yes" to any of these questions, then perhaps it's time for you to consider using WYLBUR.

WYLBUR is an interactive system which is run at UTCS and is designed specifically with the batch computing user in mind. WYLBUR users still do batch computing, but they no longer have to deal with keypunches, punched cards, or card readers. Instead, they use a personal typewriter-like terminal to communicate with the computer (over regular telephone lines), and they can enter, save, correct and submit their jobs, and examine the results using this terminal. Furthermore, they have at their disposal a powerful editing system which makes job preparation and correction

much easier.

In addition, since WYLBUR users generally keep their data on the system, their data is available for correction any time that the IBM 3033 is running. It is no longer possible to inadvertently leave that critical deck at home, and it is no longer necessary to carry heavy boxes of cards from their storage place to the card reader when the data they contain is needed. WYLBUR uses its own special data encoding system which keeps online storage costs to a minimum.

Users can take maximum advantage of WYLBUR when they have a typewriter terminal in their office or home. However, WYLBUR is still so convenient when compared to conventional batch processing that some users have begun to use WYLBUR on the terminals available in the public terminal areas. These people find that access to a powerful editing system which can be used to obtain all their data provides a sufficient impetus to use the system even though they still have to go to a public terminal to do so.

Conversion from a punched card environment to an interactive environment is usually easy. Two factors which affect the ease of conversion are: the typewriter terminal which is used to access WYLBUR is easy to

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WYLBUR AT UTCS continued

operate and maintain, and WYLBUR provides features which most users find convenient and powerful. WYLBUR is designed specifically to assist the batch processing user, and hence it is particularly well suited to be used in conjunction with existing batch programs or systems. Furthermore, UTCS already has the necessary resources to assist users in using WYLBUR effectively and quickly -- including introductory courses, advising facilities, and on-line and hardcopy documentation (including documents specifically written with the beginning user in mind).

Interested? If so, there are three ways to get more information:

1. Copies of the *WYLBUR User's Guide* can be obtained through UTCS's GPJS service by running the following procedure:

// EXEC WYLMN

The output generated by this job should be routed to the CENTRAL printer and will produce a copy of the Guide on 8.5 by 11 inch paper (UTCS form 2009). The user should allow for 5000 lines of printing.

2. UTCS expects to offer a 3 hour introductory course to introduce batch computing users to WYLBUR in the fall. If you are interested, please call the Information Office at 978-4990, or contact your Computing Services Representative (CSR).
3. Your CSR would be pleased to give you more information about WYLBUR at UTCS.

In the meantime, the next time you go to the terminal to read in your box of cards, please remember that there may be an easier way!

John Bradley

PERSONNEL CHANGES

Sue Gardner has accepted the position of Administrative Systems Supervisor. Congratulations, Sue! Sue's office is still located in Room 337 of the McLennan Physical Laboratories.

Tony Harminc, currently a member of the Systems Group, will be leaving UTCS on August 24. Tony will be working as a software consultant. We wish him the best of luck in his new position.

Raeann Chipman

LOWSPEED TERMINALS

UTCS currently has several types of lowspeed terminals available for rental to UTCS users.

The types of terminals available are:

XEROX DIABLO 1641

- a high quality hardcopy terminal
- useful for data entry; job submission/retrieval, word processing applications, etc.
- rental charge is \$125.00 per month

DECwriter LA36

- a general usage pin-feed hardcopy terminal (not high quality print)
- useful for data entry; job submission/retrieval
- rental charge is \$105.00 per month

CDI 1030

- a lightweight portable hardcopy terminal (not high quality print)
- best for APL applications and job submission/retrieval
- rental charge is \$125.00 per month

VOLKER CRAIG 303A

- a general use CRT (screen) terminal
- best for data entry; job submission
- rental charge is \$80.00 per month

NOTE: All charges include the modem for telephone hookup as well as maintenance.

Anyone interested in further information should contact his CSR.

Bob Blackburn

NEW TITLES IN DCS LIBRARY

Alcock, Donald.
Illustrating BASIC, a simple programming language.
Cambridge, University Press, 1977.

Barron, D.W.
An introduction to the study of programming languages.
Cambridge, University Press, 1977.

Bender, Edward A.
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New York, Wiley, 1978.

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New York, Macmillan, 1977.

Bolt, A.B. and Wardle, M.E.
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Cambridge, University Press, 1970.

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Colloquium on Automata, Languages and Programming, 5th, Udine, Italy, July 1978.

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NEW TITLES continued

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Philadelphia, S.I.A.M., 1979.
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New York, North-Holland, 1978.
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Amsterdam, North-Holland, 1978.
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Interactive computer graphics.
New York, Crane Russak, 1975.
- Workshop on Pattern-Directed Inference Systems, Honolulu, 1977.
Pattern-directed inference systems.
D.A. Waterman and F. Hayes-Roth, eds.
New York, Academic Press, 1978.
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A course of applied functional analysis.
New York, Wiley, 1979.

UTCS SYSTEMS

3033 PROCESSOR

- located in McLennan Physical Laboratories
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR
- 6 megabytes of memory
- MVS with JES2

SYSTEM/370 MODEL 165-II

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 4 megabytes of memory
- OS/MVT with APL and ATS

3031 PROCESSOR

- located in McLennan Physical Laboratories
- provides administrative IMS/VS DB/DC Batch and TSO services
- 6 megabytes of memory
- MVS with JES2

DECSYSTEM-10 Model 1090

- located in Sandford Fleming
- provides General Purpose Time-Sharing
- 256k - 36 bit words of memory
- TOPS10 operating system

COMMUNICATIONS & SMALL SYSTEMS (CSS)

- located in SF106
- DEC GT44 System with PDP-11/40 CPU
- 2 Z-80 based microcomputers
- DEC GT40 System with PDP-11/05 CPU
- provides specialized graphics and interactive graphics
- provides online and real-time computing services, data acquisition and minicomputer services

UTCS DIRECTORY

POSITION	ROOM	CENTREX PHONE NUMBER
DIRECTOR		
Dr. Doron Cohen	ML350	8948
ASSOCIATE DIRECTORS		
Rein Mikkor	ML350	5058
Al Heyworth	ML350	4936
FACULTY LIAISON OFFICER		
Dr. Frank Spitzer	ML350	4619
MANAGER, COMMUNICATIONS & SMALL SYSTEMS		
Eugene Siciunas	ML350	4967
MANAGER, OPERATIONS		
Derry Cox	ML350	7092
MANAGER, SYSTEMS		
Ward Beattie	ML350	3579
MANAGER, ACADEMIC COMPUTING SERVICES		
Ralph Lombardi	ML350	7130
MANAGER, ADMINISTRATIVE COMPUTING SERVICES		
Walter Berndt	ML350	7331
MANAGER, SERVICES SUPPORT		
Don Gibson	ML350	5568
ADMINISTRATIVE OFFICER		
Suzan Fawcett	ML350	4428
INFORMATION & ACCOUNTING OFFICE		
General Inquiries	EA206	4990
ACCOUNTS		
Merton Hunte (U of T)	EA206	8702
Sylvia May (External)	EA206	7148
SUPERVISOR, ACCOUNTING & INFORMATION SERVICES		
Marg Doherty	EA209	3960
ACCESS CODES		
Agatha Stevens	EA206	8703
PROGRAMMING SERVICES		
Bill Lauriston	SG201	6877
ENTRY SERVICES		
Text Entry	ML368	4565
Data Entry		5273
Keypunching	ML368	4565

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UTCS DIRECTORY continued

SUPERVISOR, APPLICATIONS

Herb Kugel	SG304	7286
COMPUTING SERVICES REPRESENTATIVES		
Engineering Annex Terminal		
Sue Chong	EA201	4357
Program Advisors	EA103	
Time-Sharing Support		
TS Advisors	SG204	6465
Mark Tapia	SG204	7109
Erindale		
Paul Shindman		828-5311
Scarborough		
Bob Blackburn		284-3173
Arts and Science		
	SS2133	6509
New Physics		
Bob Chambers	ML1202	8823
SUPERVISORS, OPERATIONS		
Paul Scarborough (IBM 3033-IBM 165)	ML335	6220
Krishna Patnaik (DEC-1090 & CSS)	SF106	4086
Dave Wong (IBM 3031)	ML335	6846

KEY:

EA = Engineering Annex	SF = Sandford Fleming
SG = 49 St. George	SS = Sidney Smith
ML = McLennan Physical Laboratories (New Physics)	

JOB AND SYSTEM STATUS QUERIES

SYSTEM/3033,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107

TIME-SHARING
SERVICES

APL,ATS

TSO,WYLBUR

DEC-10 SERVICES

PHONE-IN ADVISING

DIAL-UP

7200 CENTREX
7201 NON CENTREX
6200 CENTREX
6201 NON CENTREX
4224 CENTREX
4244 NON CENTREX
6465

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